REMARKS

Favorable consideration of this application is respectfully requested.

Claims 1-4, 6-12, 14-18 and 20-23 are currently active in this case. Claims 5, 13 and 19 have been canceled. Claims 1, 6, 8, 10-12, 15, 20 and 22 have been amended by way of the present amendment. Each amended claim is supported by the specification and claims as originally submitted, and no new matter has been added. Additionally, no new matter has been added to the substitute specification.

In the outstanding Official Action, Claims 15-23 were rejected as being unpatentable under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention; Claims 1-4, 9, 10, 13-18, and 23 were rejected as being unpatentable under 35 U.S.C. §102(e) over *Will* (U.S. Pat No. 5,825,353); and Claims 5-8, 11, 12, and 19-22 were rejected as being unpatentable under 35 U.S.C. §103(a) over *Will* in view of *Desai* (U.S. Patent No. 5,493,105), *Windsor et al.* (U.S. Patent No. 5,734,706, hereinafter *Windsor*), *Yamagishi et al.* (U.S. Patent No. 6,178,338, hereinafter *Yamagishi*), or *Toba* (U.S. Patent No. 6,374,125).

Rejections Based on 35 U.S.C. §112, First Paragraph

It is respectfully submitted that the specification provides an enabling disclosure for Claims 15-23. Specifically, the specification provides an enabling disclosure for the one or more sequences of one or more instructions.

It is important to note that the specification provides more detail than mere "block diagrams." The specification provides flowcharts via figures 7 and 8. In the software programmer industry, a programmer is typically not provided with a set of flowcharts before given an assignment for a programming task. Oftentimes, a programmer is presented with general concepts and goals that a manager would like to achieve with a software package. It is then up to the programmer to develop flowcharts to help implement the programming task.

In the present application, however, flowcharts are provided. Accordingly, a programmer of ordinary skill would be able to use the flowcharts as a map while programming the software. The particular code, including specific routines and memory allocation techniques, is up to the individual programmer. The one or more sequences of one or more instructions may include routines and subroutines of a particular programming language, such as an OOP (object-oriented programming language), C, C + +, Perl (Practical Extraction and Report Language), SGML (Standard Generalized Markup Language), HTML (Hypertext Markup Language), XML (Extensible Markup Language), etc. These languages are well-known in the industry. It would *not* require one having ordinary skill of such languages more than routine experimentation to construct the one or sequences or one or more instructions, as flow charts with descriptions are provided in the specification.

Further, figure 9 provides a block diagram which graphically depicts functionality of the system. As stated earlier, however, the specification provides more detail than a mere block diagram. Thus, it is respectfully requested that the rejections to Claims 15-23 based on Section 112 be removed.

Rejections Based on 35 U.S.C. §102(e) and 103(a)

Claim 1 differs from the cited art in notable ways. Claim 1 recites a method of managing a phone device of a personal digital assistant, wherein the method comprises, among other things:

> "displaying at least a portion of the list on a screen of the personal digital assistant, *wherein the phone device includes a tap recognizer, wherein the display device is configured to select a tapped list record and to initiate a call*" (emphasis added).

It is respectfully submitted that this limitation is neither taught nor suggested by the cited references, individually or any combination thereof.

The tap recognizer allows a user to utilize quickly the functionality of the personal digital assistant. Here, that functionality is seamlessly integrated into the phone device. A user may tap the display to activate desired functionality. In the present invention, the display device is configured to receive a tap to a listed phone number and immediately initiate a call to that phone number. In the personal digital assistant, that phone number may have been stored in a list record, including a person's name, address, phone number(s), and notes. By having the functionality of the tap recognizer, a user can eliminate unnecessary key strokes or steps for making a call. Accordingly, Claim 1 is neither taught nor suggested by the cited references. Thus, it is respectfully submitted that Claim 1 is allowable.

Independent Claims 10 and 15 are allowable for similar reasons Claim 1 is allowable. Likewise, Dependent Claims 2-4, 6-9, 11, 12, 14, 16-18 and 20-23 are allowable for similar reasons their respective base claims are allowable.

Consequently, no further issues are believed to be outstanding, and it is respectfully submitted that this case is in condition for allowance. An early and favorable action is respectfully requested.

Respectfully submitted,

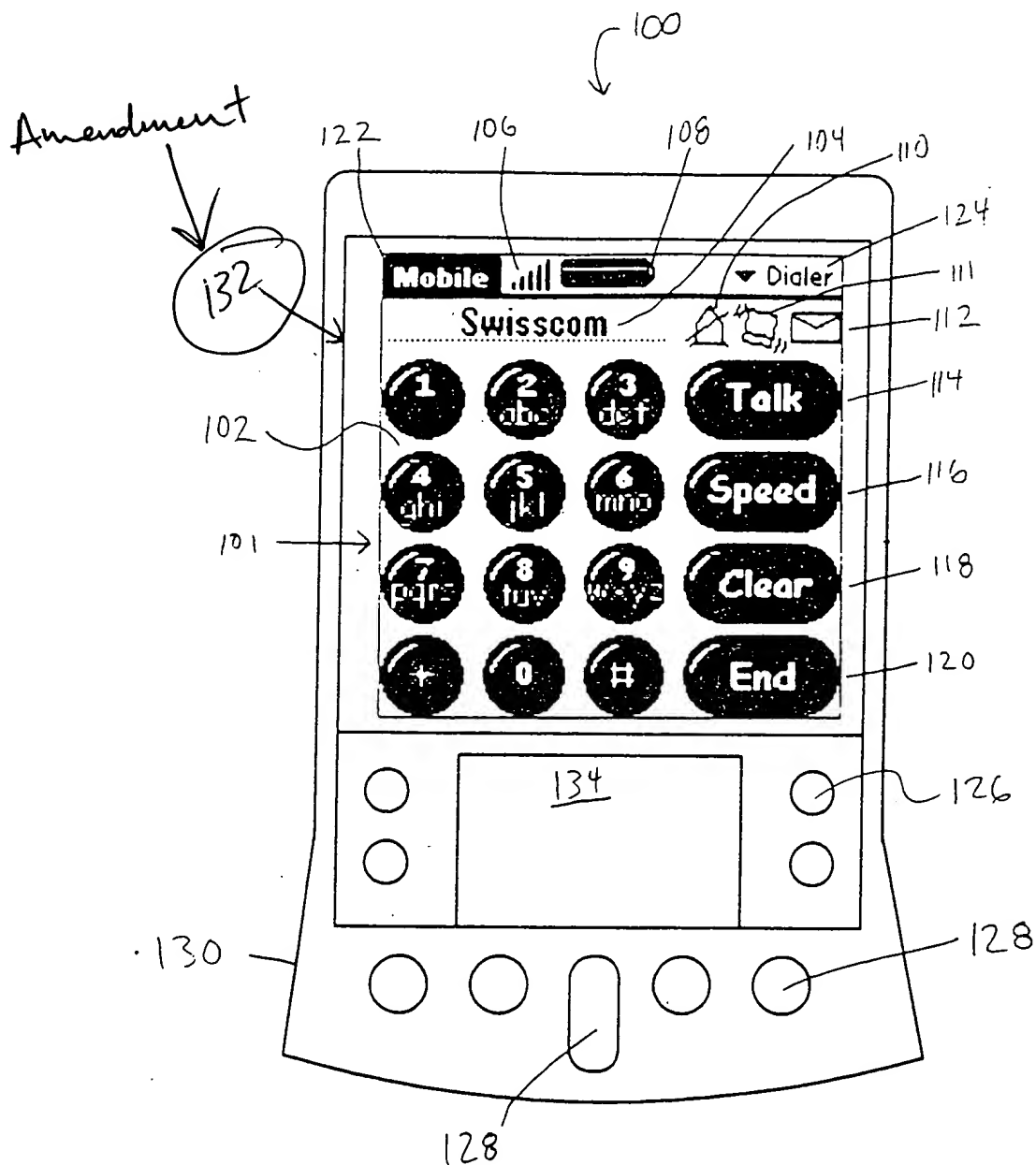REED SMITH CROSBY HEAFEY LLP
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Dated: October 7, 2003

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Annotated Drawing Sheet

100

Amendment

132

Mobile ▪ıll ▭ ▼ Dialer

Swisscom

1	2 abc	3 def	Talk
4 ghi	5 jkl	6 mno	Speed
7 pqrs	8 tuv	9 wxyz	Clear
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FIG. 1

UNITED STATES PATENT APPLICATION FOR

METHOD AND APPARATUS FOR MAKING A CALL FROM AN ADDRESS LIST
OR A CALL HISTORY LIST

Inventors:
Stephane Maes
Tim Twerdahl
Benoit Vialle
Ryan Robertson

Palm, Inc. reference no. 3503

CERTIFICATE OF MAILING BY "EXPRESS MAIL"
UNDER 37 C.F.R. §1.10
"Express mail" mailing label number:
Date of Mailing: Friday, September 29, 2000

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label number.

(Signature) Rebecca M. Klits
Signature Date: Friday, September 29, 2000

METHOD AND APPARATUS FOR MAKING A CALL FROM AN ADDRESS LIST OR A CALL HISTORY LIST

5

Palm, Inc. reference no. 3503

Inventors:
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Tim Twerdahl
10 Benoit Vialle
Ryan Robertson

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15

25

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention generally relates to
telecommunications and, more particularly, to providing
30 phone applications in a portable computer system.

Discussion of Background

Personal computer systems have become common tools in
modern society. To organize their lives, many personal

1   PATENT APPLICATION

computer users use personal information management applications such as an address book and a daily organizer on their personal computers. Although such applications have proven useful for personal information management,

5   their utility is limited by the fact that the person must be sitting at their personal computer system to access the information.

To remedy this limitation, many palmtop computers, electronic organizers and other handheld devices, commonly

10   known as personal digital assistants ("PDA's") have been introduced. A PDA is a computer that is small enough to be held in the hand of a user and runs personal information management applications such as an address book, a daily organizer, and electronic notepads. These applications make

15   people's lives easier.

The most popular brand of PDA is the Palm™ (not shown). However, the Palm™ is much more than a simple PDA. A Palm™ is small, slim, device, about the size of your wallet, can hold 6000 addresses, 5 years of appointments, 1500 to-do

20   items, 1500 memos, 200 e-mail messages, and can run many different software applications.

The front panel of the Palm™ is a large LCD screen, which is touch-sensitive and allows a user to enter and manipulate data. By using a stylus to interact with a

25   touch-sensitive screen, a user may easily navigate through a

2   **PATENT APPLICATION**

host of various software applications. A stylus is used to interact with information on a screen in much the same way as a mouse on a desktop personal computer.

Many PDA's offer Internet connectivity, as well as a
5   vast array of hardware and software choices. PDA's have evolved into a new kind of handheld device that people use to instantly manage all kinds of information, from email, to medical data, to stock reports. Unfortunately, to date, PDA's have had only modest success in the marketplace, due
10 to their high price tags, as well as their useful although limited applications.

In addition to being somewhat limited, many PDA applications have generally not been available in the PDA's counterpart—the mobile phone. Mobile phone manufacturers
15 have taken the approach of trying to integrate PDA functionality into their mobile phones. This approach has several disadvantages. To fulfill their primary function of efficiently making phone calls, mobile phones are geared toward a different feature set from PDA's. For example, as
20 one of the design aims for mobile phones is ever-smaller size, Internet access is compromised. Mobile phones are an unattractive Internet access option because the screen on a mobile phone is typically much smaller than that of a PDA. A mobile phone can typically display only a small fraction
25 of the amount information that a PDA can display.

3   **PATENT APPLICATION**

Generally, many applications that are user-friendly on a PDA would be cumbersome in a mobile phone environment. Additional examples of such applications include inputting an address list and displaying a detailed record of calls.

5 A mobile phone is therefore inherently unsuitable for navigating through even the simplest of PDA applications.

PDA's and mobile phones have been manufactured to meet different design aims. PDA's are primarily designed to provide personal information management in a small, portable

10 device. Mobile phones are primarily designed for efficiently making phone calls while on the go. A mobile phone environment is generally not geared for running PDA software applications, including anything more than the lowest level of graphics.

SUMMARY OF THE INVENTION

It has been recognized that what is needed is an efficient system for integrating mobile phone functionality into a palmtop environment. Broadly speaking, the present invention fills these needs by providing a method and apparatus for integrating mobile phone functionality into a personal digital assistant (PDA). It should be appreciated that the present invention can be implemented in numerous ways, including as an apparatus, a system, a device, a procss or a method. Several inventive embodiments of the present invention are described below.

In one embodiment, a method of managing a phone device of a PDA is disclosed. The PDA retrieves a call history list from a stored memory location, the call history list including a call history list record. The PDA then displays at least a portion of the call history list on a screen of the PDA. The call history list preferably includes phone numbers and names associated with those phone numbers.

In another embodiment, a method further includes displaying call details of a selected call history list record. The call details preferably includes a date, a timestamp, and a duration.

5

PATENT APPLICATION

In still another embodiment, a PDA is disclosed that includes a phone device. The phone device comprises a selection mechanism configured to allow selection of a list having at least one list record; a display device configured

5   to display at least a portion of the list and to allow selection of a list record; and a call device configured to initiate a phone call using a phone number associated with a selected list record.

Advantageously, the present invention provides a more

10 convenient and efficient system for combining phone functionality with PDA functionality. Among other things, a user may utilize traditional mobile phone applications without having to deal with mobile phone inconveniences. A computer environment is described for software applications

15 that require more robust computer systems and graphics capabilities than a typical mobile phone can provide. The computer environment that is described not only fulfills these requirements, but also has palm-size portability. Other embodiments, disclosed in detail below, illustrate how

20 the present invention provides phone applications that are ideally applicable to the method and apparatus of the present invention.

The present invention is not limited to the specific embodiments described herein, namely a method, an apparatus,

25 and a computer-readable medium. Rather the invention may

<div align="center">6</div>

encompass other features, embodiments and alternatives which will be apparent to those skilled in the art.

7

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be readily understood by the following detailed description in conjunction with the accompanying drawings. To facilitate this description, like
5   reference numerals designate like structural elements.

FIG. 1 shows a personal digital assistant (PDA), which incorporates a phone device feature, in accordance with one embodiment of the present invention.

FIG. 2 shows screen shot on the PDA of FIG. 1 of a list
10 having at least one list record, in accordance with one embodiment of the present invention.

FIG. 3 shows a screen shot of a call history list, which includes at least one list record and a selected name, in accordance with one embodiment of the present invention.

15 FIG. 4 shows a screen shot of call details of a selected name from a call history list, in accordance with one embodiment of the present invention.

FIG. 5 shows a screen shot of a call history list, which includes at least one list record and a selected phone
20 number, in accordance with one embodiment of the present invention.

8

FIG. 6 shows a screen shot of a call history list and address details of a selected phone number, in accordance with one embodiment of the present invention.

FIG. 7 is a flowchart of a method for managing a phone
5 device of a PDA, such as that shown in FIG. 1, in accordance with one embodiment of the present invention.

FIG 8 is a detailed flowchart of a method for managing a phone device of a PDA, such as that shown in FIG. 1, in accordance with one embodiment of the present invention.

10 FIG. 9 is a block diagram that illustrates a computer system for a PDA, such as that shown in FIG. 1, upon which an embodiment of the invention may be implemented.

PATENT APPLICATION

DESCRIPTION OF THE PREFERRED EMBODIMENTS

An invention is disclosed for a method and an apparatus for integrating mobile phone functionality into a personal digital assistant (PDA). In the following description, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be understood, however, to one skilled in the art, that the present invention may be practiced without some or all of these specific details. In other instances, well known process operations have not been described in detail in order not to unnecessarily obscure the present invention.

General Overview

FIG. 1 shows a personal digital assistant (PDA), which incorporates a phone device feature, in accordance with one embodiment of the present invention. Examples of a PDA include palm style computers, such as a Palm IIITM, Palm VTM, or Palm VIITM, organizers, manufactured by ~~3Com~~ 3COM Corporation. Other embodiments of the invention include Windows CETM handheld computers, other handheld computers, and other personal digital assistants.

The Palm™ and its operating environment are used herein to illustrate various aspects of the present invention. However, it should be understood that the present invention

. 10   PATENT APPLICATION

may be practiced on other devices, including other Palm™ models, PDA's, computer devices, PC's, notebooks, etc.

The PDA 100 shown in FIG. 1 is preferably a combination of a processor and memory, having a portable energy source, 5 and being incased in PDA housing 130. In one example, the PDA housing 130 is made of a lightweight, durable plastic material, and is ergonomically designed to be held in the palm of one hand. A PDA 100 combines computing, telephone/fax, and networking features, and can function as 10 a cellular phone, fax sender, and personal organizer. A PDA 100 is preferably pen-based, using a stylus rather than a keyboard for input. This use of a stylus means that a PDA 100 preferably incorporates handwriting recognition features. In another embodiment, a PDA 100 can react to 15 voice input by using voice recognition technologies.

The PDA 100 shown in FIG. 1 includes a plurality of hard buttons 128 and a display device 132 fixed in the PDA housing 130. The display device 132 may be provided with a graphical user interface that allows a user to select and 20 alter displayed content using a stylus. A plurality of soft buttons 126 for performing automated or pre-programmed functions may be provided on a portion of the display device. In one embodiment, a soft button 126 is a tap recognizer configured to initiate a predetermined routine 25 when a user taps the soft button 126. In an alternative

<p align="center">11</p>

embodiment, the display device 132 also includes a Graffiti™ writing section 134 for tracing alphanumeric characters as input.

5   Structural Overview

As shown in FIG. 1, a call device 101 is active on the display device ~~101~~ 132. A phone device in the PDA 100 runs the call device 101.   The phone device is preferably software, hardware, or combination thereof that allows a
10   user to perform functions of a mobile phone.   Such mobile phone functions may include, for example, dialing phone numbers, placing phone calls, receiving phone calls, and receiving voicemail.   When the PDA 100 is performing functions of a mobile phone, a mobile phone indicator 122,
15   preferably located near the top portion of the screen of the PDA 100, is activated.

When the call device 101 is displayed on the screen of PDA 100, the PDA 100 preferably indicates by a phone status icon 124 that the call device 101 is in dialer mode.   The
20   call device 101 preferably includes a dialer pad 102, which allows a user to input numbers, letters, punctuation, or other symbols into the call device 101.   Digits may be inputted, for example, to dial a phone number or to load a phone number into a memory of the PDA 100.   Letters may be

inputted, for example, to load a person's name, address, or other information into memory of the PDA 100.

The call device 101 of FIG. 1 is displayed at a time when the call device 101 is in the process of initiating a

5   phone call. In other words, FIG. 1 shows a screen shot of the call device 101 at a time when the call device 101 is in dialing mode.

A name 104 of a person preferably is displayed near the top portion of the call device 101 to indicate that a phone

10   number dialed has been recognized by the PDA 100. In one embodiment, upon initiating the phone call, the PDA 100 searches in memory for a name associated with the dialed phone number. In FIG. 1, "Mindy Chahal—w" is the name that is recognized by the PDA 100. In this example, the PDA 100

15   is attempting to contact a device that is indicated to be associated with Mindy Chahal at her work. A dialer status icon 110 is preferably included near the top portion of the call device 101 to indicate to the user that the call device 101 is in the process of initiating the phone call.

20   The embodiment of FIG. 1 shows other features that may be initiated in the call device 101. A user may initiate these other applications by pressing a button icon, such as a save button 114, a note button 116, a mute button 118, or an end button 120. User activation of the Save button 114

25   saves the phone number associated with a call the user is

<div align="center">13</div>

PATENT APPLICATION

currently engaged to the address book.   User activation of

the note button 116 activates an in-call note taking

service.   User activation of the mute button 118 mutes the

caller at the other end of the line (other caller).   This

5 muting which keeps the other caller from hearing any

conversation initiated at the users side of the

conversation.   User activation of the end button 120

terminates the call that the user is currently

participating.

10   Where a user of the PDA 100 has received a voicemail

message, a voicemail indicator 112 preferably appears near

the top portion of the screen of the PDA 100.   The call

device 101 of the PDA 100 preferably has at the top of the

screen a signal strength indicator 106 and a battery charge

15 indicator 108.   The signal strength indicator 106 shows a

relative quality and strength of a signal that may be

transmitted in a mobile phone network in which the call

device 101 is located.   The battery charge indicator 108

shows a relative amount of energy remaining in the battery

20 of the PDA 100.

Structural Overview

FIG. 2 shows screen shot on the PDA of FIG. 1 of a list

201 having at least one list record 203, in accordance with

14

one embodiment of the present invention. A user may easily navigate through various applications of the PDA 100. Such applications include a call device 101 and a list 201. Navigation through different screens of these applications

5   may be performed in several different ways. In one embodiment, the user presses a hard button a given number of times on a front panel of the PDA 100 to navigate through applications of the phone device. In another embodiment, the user taps the phone status icon 124 in the top-right

10   corner to show names of different applications or screens available. As shown in FIG. 2, these different applications may include a "Dialer" application, a "Outgoing" calls list application, and an "Received" call list application. These applications provide additional functionality to the phone

15   device of the PDA 100. The present invention, however, is not limited to these specific embodiments.

A list 201 may be of several types. In the embodiment of FIG. 2, the list 201 is a call history list, and the list records 203 are call history list records. The call history

20   list of FIG. 2 is one specific example of a list 201. A call history list preferably contains call history list records of incoming, outgoing, missed, or received calls. Another type of list is an address list (not shown) having at least one address list record of phone numbers and names

25   associated with those phone numbers 204.

15   PATENT APPLICATION

The list 201 of FIG. 2 has call history list records that have phone numbers 204 and names 202 associated with those phone numbers 204. The embodiment of FIG. 2 shows a call history list of missed calls. A missed call is an incoming call that was not answered by the user.

Where an incoming or outgoing call can be matched with a phone number 204 in memory, the phone number 204 is shown in the list record 203 of the call history list. Where an incoming or outgoing call can be matched with a name 202 in memory, the name 202 is also shown in the list record 203 of the call history list. This matching occurs when a name 202 is previously stored in memory, such as in an address book of the PDA 100, and is associated with the phone number 204. When the phone number 204 is identified in the address book, the associated name 202 is included in the appropriate call history list record. Where an incoming or outgoing call does not have a name 202 associated with a phone number in memory, the call history list preferably stores an "unnamed" list record 208."

A set of scroll arrows 206 is another preferred feature of the list 201. The scroll arrows 206 allow a user to scroll up and down through the list 201 if an entire list 201 cannot fit on the screen of the PDA 100.

FIG. 3 shows a screen shot of a call history list, which includes at least one list record 203 and a selected

16   PATENT APPLICATION

name 304, in accordance with one embodiment of the present invention. The phone status icon 124 in FIG. 3 indicates that the phone device is presently showing a call history list of received calls. The list 201 is shown as it

5 preferably appears on a display device of a phone device in a PDA 100. When an incoming call cannot be identified by a phone number 204, the call history list preferably contains a list record 203 with an unavailable ID indicator 302.

Once a call history list is displayed, as in FIG. 3,

10 the user may initiate functions of the phone device by interacting with the screen through a stylus. The PDA 100 preferably includes selection mechanism that recognizes when part of a list 201 has been selected. In one embodiment, the user may tap on a selected name 304 if the user wants to

15 view details of a selected call. By tapping the screen of the display device of the PDA 100, the user triggers a tap recognizer in the PDA 100. A tap recognizer is hardware, software, or combination thereof. In this example, the tap recognizer is configured to sense that the selected name 304

20 has been chosen. A rectangle preferably then appears around the selected name 304.

FIG. 4 shows a screen shot of call details 401 of a selected name 304 from a call history list, in accordance with one embodiment of the present invention. This screen

25 appears when the user taps on a list record 203 where the

<div align="center">17</div>

name has been highlighted. The call details 401 for a selected list record 203 preferably includes the following: a phone number 204 identifying an outside calling device to which the present phone device was, at one time, connected;

5   a name 202 associated with the phone number 204; a date stamp 406 for the date of connection to a mobile phone network; a timestamp 408 for the time of day the call was received or initiated; and a duration 410 that the phone device was connect to a mobile phone network.

10   In the addition the screen for the call details 401 preferably includes a done button 412 and a delete button 414. The done button 412, when activated, takes the phone device back to the preceding call history list. The delete button 414, when activated, removes from memory the list

15   record 203 that corresponds to the selected name 304.

The present invention, however, is not limited to the particular arrangement of FIG. 4 for the display of call details 401. The call details 401, for example, may include simply a phone number 204 and an associated name 202.

20   Alternatively, the call details 401 may include, in addition to what is shown in FIG. 4, a street address, an email address, and an alternative phone number. The particular information displayed in the call details 401 depends on user preferences, information stored in memory, or

25   combination thereof.

18   PATENT APPLICATION

FIG. 5 shows a screen shot of a call history list, which includes at least one list record 203 and a selected phone number 502, in accordance with one embodiment of the present invention. FIG. 5 illustrates another example of how the user may initiate a function of the phone device by interacting with the screen through a stylus. For example, the user may tap on a selected phone number 502 if the user wants to initiate the call device 101 of the phone device. The tap recognizer of the PDA 100 senses the selected phone number 502 has been tapped. A rectangle preferably appears around the selected phone number 502.

The call device 101 may be triggered upon tapping a selected phone number 502 in the call history list. FIG. 1, discussed above, shows an example of the screen that is displayed upon tapping a selected phone number 502. The call device 101 is displayed and a phone call is simultaneously initiated to the selected phone number by tapping on selected phone number 502. A phone call 502 is initiated by attempting to contact a device associated with the selected phone number 502. In other words, a wireless signal is transmitted into a mobile phone network, wherein the wireless signal carries required data to contact a device associated with the selected phone number 502.

FIG. 6 shows a screen shot of a call history list and address details 602 of a selected phone number 502, in

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accordance with one embodiment of the present invention. FIG. 6 illustrates yet another example of how the user may initiate a function of the phone device by interacting with the screen. The user may tap and hold on a selected phone

5 number 502 if the user wants to view address details 602 of the corresponding list record 203. Address details 602 preferably includes the selected phone number and any other phone numbers that may be associated with the name for the selected phone number 502. In the example of FIG. 6, three

10 phone numbers, including the selected phone number 502 displayed on the main screen, are included in the address details 602. Once the address details are shown on the display device, the user preferably taps the number that the user wants to call. The call device 101 is then triggered,

15 as discussed above with respect to the discussion of FIG. 5. In an alternative embodiment, the address details 602 includes other user-defined information, such as fax numbers, nicknames, street addresses, etc.

The foregoing description includes a discussion of

20 applications using a call history list. Another type of list is an address list (not shown), as discussed above with respect to FIG. 1. In one embodiment, an address list includes a predefined directory of phone numbers and names associated with those phone numbers. The directory can be

25 organized alphabetically, or chronologically based on date

of entry. It should appreciated by one of ordinary skill
that the applications discussed above are readily applicable
to an address list, a call history, or some other type of
list that contains a set of similarly formatted information.

5

Process Overview

FIG. 7 is a flowchart of a method for managing the
phone device of a PDA 100, such as that shown in FIG. 1, in
accordance with one embodiment of the present invention.

10 The method starts in step 702 in which a list 201 is
retrieved from a stored memory location in a PDA 100. The
list 201 includes at least one list record 203, as
previously described. For example, a user taps the phone
status icon 124 to display a set of lists available. The

15 user selects a desired list from the set, which may include,
for example, a call history list and an address list. The
PDA 100 then retrieves this selected list from a memory of
the PDA 100.

The PDA 100 responds in step 704 by displaying a

20 portion of the list record 203 on a screen of the PDA 100.
For example, a display device displays a portion of a call
history list or a portion of an address list on the screen
of the PDA 100.

PATENT APPLICATION

FIG 8 is a detailed flowchart of a method for managing a phone device of a PDA 100, in accordance with one embodiment of the present invention. The method starts in step 802. Method steps 802 and 804 are substantially

5   similar to method steps 702 and 704, respectively, of FIG. 7. Both the methods of FIG. 7 and FIG. 8 are preferably implemented in one or more PDA 100 programs or processes.

The method of FIG. 8 enters a decision operation 806, where it is determined whether details of a selected list

10 record is to be displayed. If details of a selected list record is to be displayed, then the following steps depend on whether the details of a selected phone number 502 or a selected name 304 are to be displayed. This determination between selected phone number 502 and selected name 304 is

15 indicated by decision operation 808. For example, a user may tap and hold on a selected phone number 502. In step 810, address details 602 of the corresponding list record 203 are then displayed, as discussed above with reference to FIG. 6. In another example, a user may tap on a name in a

20 call history list. In step 812, call details 401 of the corresponding call history list are then displayed, as discussed above with reference to FIG. 3.

If, in operation 806, details of a selected list record is not to be displayed, the phone device may determine, in

25 operation 814, whether a phone call is to be initiated. If

a phone call is not to be initiated, then the PDA 100 continues, in step 804, to display at least a portion of the list on a screen of the PDA 100. If, however, a phone call is to be initiated, then in step 816 a phone call is

5   initiated in a mobile phone network. For example, a user may tap on a selected phone number 502. In a preferred embodiment, the call device 101 of the phone device is then triggered and a phone call is simultaneously initiated, as discussed above with reference to FIG. 5.

10   After a phone call has been initiated, a user may or may not want to display the list 201 again. Such a determination by the phone device is indicated by the decision operation 818. If the list 201 is to be displayed, then the PDA 100 returns to step 804 and displays at least a

15   portion of the list on a screen of the PDA 100. If, however, the list 201 is not to displayed, the process is done.

Hardware Overview

20   FIG. 9 is a block diagram that illustrates a computer system 900 for a PDA 100, such as that shown in FIG. 1, upon which an embodiment of the invention may be implemented. The preferred embodiment is implemented using one or more computer programs running on a portable computer, such as a

23   PATENT APPLICATION

PDA 100. Thus, in this embodiment, the computer system 900 is a PDA 100.

Computer system 900 includes a bus 902 or other communication mechanism for communicating information, and a

5 processor 904 coupled with bus 902 for processing information. Computer system 900 also includes a main memory 906, such as a random access memory (RAM) or other dynamic storage device, coupled to bus 902 for storing information and instructions to be executed by processor 904. Main

10 memory 906 also may be used for storing temporary variables or other intermediate information during execution of instructions to be executed by processor 904. Computer system 900 further includes a read only memory (ROM) 908 or other static storage device coupled to bus 902 for storing

15 static information and instructions for processor 904. A storage device 910, such as a magnetic disk or optical disk, is provided and coupled to bus 902 for storing information and instructions.

Computer system 900 may be coupled via bus 902 to a

20 display 912, such as a liquid crystal display (LCD), for displaying information to a computer user. An input device 914 is a touch-sensitive LCD that interprets by sensing contact on the LCD, and is coupled to bus 902 for communicating information and command selections to processor

25 904. Another type of input device 914 includes alphanumeric

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and other keys, and is coupled to bus 902 for communicating information and command selections to processor 904. Still another type of user input device is cursor control 916, such as a mouse, a trackball, or cursor direction keys for

5 communicating direction information and command selections to processor 904 and for controlling cursor movement on display 912. This input device typically has two degrees of freedom in two axes, a first axis (e.g., x) and a second axis (e.g., y), that allows the device to specify positions in a plane.

10 The invention is related to the use of computer system 900 for providing mobile phone applications in a PDA 100. According to one embodiment of the invention, mobile phone applications are provided by computer system 900 in response to processor 904 executing one or more sequences of one or

15 more instructions contained in main memory 906. Such instructions may be read into main memory 906 from another computer-readable medium, such as storage device 910. Execution of the sequences of instructions contained in main memory 906 causes processor 904 to perform the process steps

20 described herein. In alternative embodiments, hard-wired circuitry may be used in place of or in combination with software instructions to implement the invention. Thus, embodiments of the invention are not limited to any specific combination of hardware circuitry and software.

25 The term "computer-readable medium" as used herein refers to any medium that participates in providing instructions to processor 904 for execution. Such a medium

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may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media includes, for example, optical or magnetic disks, such as storage device 910. Volatile media includes

5   dynamic memory, such as main memory 906. Transmission media includes coaxial cables, copper wire and fiber optics, including the wires that comprise bus 902. Transmission media can also take the form of acoustic or light waves, such as those generated during radio-wave and infra-red data

10   communications.

      Common forms of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, or any other magnetic medium, a CD-ROM, any other optical medium, punchcards, papertape, any other physical

15   medium with patterns of holes, a RAM, a PROM, and EPROM, a FLASH-EPROM, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other medium from which a computer can read.

      Various forms of computer readable media may be involved

20   in carrying one or more sequences of one or more instructions to processor 904 for execution. For example, the instructions may initially be carried on a magnetic disk of a remote computer. The remote computer can load the instructions into its dynamic memory and send the

25   instructions over a telephone line using a modem. A modem local to computer system 900 can receive the data on the telephone line and use an infra-red transmitter to convert

<div align="center">26</div>

the data to an infra-red signal. An infra-red detector coupled to bus 902 can receive the data carried in the infra-red signal and place the data on bus 902. Bus 902 carries the data to main memory 906, from which processor 904

5   retrieves and executes the instructions. The instructions received by main memory 906 may optionally be stored on storage device 910 either before or after execution by processor 904.

Computer system 900 also includes a communication

10 interface 918 coupled to bus 902. Communication interface 918 provides a two-way data communication coupling to a network link 920 that is connected to a local network 922. As an example, the communication interface 918 is connected to an antennae and performs wireless communications to a

15 network, such as Internet ISP 926 or local network 922. In another example, the communication interface 918 connects to a mobile phone network to complete calls initiated by the process of the present invention. In still another example, communication interface 918 is an integrated services digital

20 network (ISDN) card or a modem to provide a data communication connection to a corresponding type of telephone line. In yet another example, communication interface 918 is a local area network (LAN) card that provides a data communication connection to a compatible LAN. In any such

25 implementation, communication interface 918 sends and receives electrical, electromagnetic or optical signals that

<center>27</center>

carry digital data streams representing various types of information.

Network link 920 typically provides data communication through one or more networks to other data devices. For

5   example, network link 920 may provide a connection through local network 922 to a host computer 924 or to data equipment operated by an Internet Service Provider (ISP) ·926. ISP 926 in turn provides data communication services through the world wide packet data communication network now

10   commonly referred to as the "Internet" 928. Local network 922 and Internet 928 both use electrical, electromagnetic or optical signals that carry digital data streams. The signals through the various networks and the signals on network link 920 and through communication interface 918,

15   which carry the digital data to and from computer system 900, are exemplary forms of carrier waves transporting the information.

Computer system 900 can send messages and receive data, including program code, through the network(s), network link

20   920 and communication interface 918. In the Internet example, a server 930 might transmit a requested code for an application program through Internet 928, ISP 926, local network 922 and communication interface 918.

The received code may be executed by processor 904 as ·

25   it is received, and/or stored in storage device 910, or other non-volatile storage for later execution. In this

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manner, computer system 900 may obtain application code in the form of a carrier wave.

Scope

5   In this disclosure, including in the claims, certain process steps are set forth in a particular order, and alphabetic and alphanumeric labels may be used to identify certain steps. Unless specifically stated in the disclosure, embodiments of the invention are not limited to any

10   particular order of carrying out such steps. In particular, the labels are used merely for convenient identification of steps, and are not intended to imply, specify or require a particular order of carrying out such steps.

       In the foregoing specification, the invention has been

15   described with reference to specific embodiments thereof. It will, however, be evident that various modifications and changes may be made thereto without departing from the broader spirit and scope of the invention. The specification and drawings are, accordingly, to be regarded

20   in an illustrative rather than a restrictive sense.

PATENT APPLICATION

METHOD AND APPARATUS FOR MAKING A CALL FROM AN ADDRESS LIST OR A CALL HISTORY LIST

ABSTRACT

5   A method and apparatus of managing a phone device of a personal digital assistant (PDA) is ~~disclosed~~ provided. In one example of the present invention, the PDA retrieves a call history list from a stored memory location, the call history list including a call history list record. The PDA

10   then displays at least a portion of the call history list on a screen of the PDA. The call history list preferably includes phone numbers and names associated with those phone numbers. In another example, the method further includes displaying call details of a selected call history list

15   record. The call details preferably includes a date, a timestamp, and a duration.

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